UNITED STATES PATENT AND TRADEMARK OFFICE

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10/622,112	07/18/2003	Jin Hyun Kim	SI-0038	1630

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FLESHNER & KIM, LLP
P.O. Box 221200
Chantilly, VA 20153-1200

EXAMINER
PORTIS, SHANTELL L

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/622,112	KIM, JIN HYUN
	Examiner	Art Unit	
	Shantell Portis	2617	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 February 2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-33</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-33</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>18 July 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed on February 28, 2007 have been fully considered but they are not persuasive.

In regards to claims 1, 7, 13 and 23, applicant argues that Lewis et al. does not disclose *a data terminal unit which sends information indicative of an operational state of a repeater to a server through the mobile IP network, and that the server sends commands to the data terminal unit through the mobile IP network for correcting a malfunction of the repeater in response to said operational state information.* Lewis et al. in combination with Nakashima et al. disclose the amendments as stated in claims 1, 7, 13 and 23. Lewis et al. discloses a method to route data items between a plurality of mobile devices and a plurality of host system through a common wireless router (See Abstract; Col. 30, line 57-Col. 31, line 9 and Col. 31, line 53-Col. 32, line 3). The wireless router 20 implements features necessary to support pushing data to the mobile device 24. The data could be a response to a request from the device or could be real-time response to a mobile device's query all of which could be that of software updates to push user data items in a routing system that is implemented primarily in software (See Col. 17, lines 9-23 and Col. 29, lines 62-65). Data is exchanged between the mobile device and host system through the mobile IP network. (See Col. 6, lines 4-12; Col. 13, lines 6-12; Col. 15, lines 54-61 and Figure 1). Lewis et al. fails to specifically disclose wherein the data items are of an operational state of the mobile device. In the same field of endeavor, Nakashima et al. discloses a

network monitoring system where a point to multipoint connection between a network

device 10a to 10n and monitoring station 30a to 30n is established that passes through

a broadcast unit 20. A status message of the network device is transmitted to the

monitoring stations when a status change is detected in the network device via the

broadcast unit (See Abstract; Col. 4, lines 9-51 and Figure 1). An object of the

invention, is to increase the efficiency in network monitoring activities all in which

operations and maintenance of communication links require highly sophisticated

network monitoring technologies (See Col. 1, lines 14-22 and Col. 2, line 27). At the

time of invention, it would have been obvious to a person of ordinary skill in the art to

implement a routing system to allow for a point to point communication connection

between mobile devices and host system to allow for data items to be transmitted

(Lewis-Abstract).

In regards to claims 10, 20 and 21, applicant argues that Lewis et al. does not

disclose *"checking a version of control software embedded in the repeater"* and

"updating the repeater with a new version of the control software transmitted

from the server to the data terminal unit through the mobile IP network." The host

service 40-48 which is part of the host system 28 is also modified to prepare and

exchange information with wireless device 24 via the wireless router 20, like customer

relationship management software 40 (See Col. 6, lines 23-39). User's data items such

as software updates are repackaged for transparent delivery to the mobile device

through the routing system (See Col. 3, lines 47-60). The host system 28 sends data to

the wireless router through a TCP/IP connection 16 (See Col. 6, lines 4-12; Col. 13,

lines 6-12; Col. 15, lines 54-61 and Figure 1).

The applicant argues that Lewis et al. whether alone or in combination with

Nakashima et al. does not disclose *"collecting status information of the repeater*

connected to said data terminal equipment, and then reporting the status

information to the server at an information report time, wherein said operation

information includes the status information" and *"the status information*

includes information indicative of a cause of an alarm occurring at the repeater

and information relating to an internal location of the repeater when the alarm

has occurred" as recited in claims 18 and 19. Lewis et al. discloses a routing system

for routing data items between a plurality of mobile devices and a plurality of host

system through a common wireless router as described above (See Abstract; Col. 30,

line 57-Col. 31, line 9 and Col. 31, line 53-Col. 32, line 3). Lewis et al. fails to disclose

wherein the data information is status information, wherein operation information

includes the status information and the status information includes information

indicative of a cause of an alarm occurring and information relating the an internal

location when the alarm has occurred. However, Nakashima et al. discloses the

monitored controller 10a sends status messages (operation information/status

information) which can be faults (disorders) to the monitoring stations 40a to 40n via

the broadcast unit 20 this inherently can cause an alarm to occur at the monitored

controller (Col. 4, lines 41-51).

At the time of invention, it would have been obvious to a person of ordinary skill

in the art to provide for a point-to-multipoint connection for collecting status messages

that contribute to the improvement of efficiency in network monitoring activities

(Nakashima-Col. 12, lines 17-30)

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

3.   Claims 1-5, 7-10, 13-21, 23-25 and 27-31 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Lewis et al (Lewis), U.S. Patent No. 7,010,303 in view of

Nakashima et al. (Nakashima), U.S. Patent No. 6,470,385.

Regarding Claims 1-3, 7, 13 and 23-25, Lewis discloses a repeater remote

control system in a mobile communication system comprising: a server that controls at

least one repeater through packet data transmissions sent through a mobile IP

network; and a data terminal unit that establishes a first link between said repeater and

the server through the mobile IP network, wherein the data terminal unit sends

information indicative of said repeater to the server through the mobile IP network and

wherein the server sends commands to the data terminal unit through the mobile IP

network, wherein the data terminal unit establishes a second link between said

repeater and the server by interworking with a mobile communication network and

wherein after the second link is established, the data terminal unit passes control

packet data from the server to said repeater through the mobile IP network. **The**

wireless router 20 implements features necessary to support pushing data to the

mobile device 24. The data could be a response to a request from the device or

could be real-time response to a mobile device's query all of which could be that

of software updates to push user data items in a routing system that is

implemented primarily in software (See Col. 17, lines 9-23 and Col. 29, lines 62-

65). Data is exchanged between the mobile device and host system through the

mobile IP network. (See Col. 6, lines 4-12; Col. 13, lines 6-12; Col. 15, lines 54-61

and Figure 1).

Lewis fails to specifically disclose wherein the data terminal unit sends

information indicative of an operational status of said repeater.

In the same field of endeavor, Nakashima discloses a network monitoring

system, monitored controller, and monitoring controller. Nakashima further discloses

wherein the data terminal unit sends information indicative of an operational state of

said repeater to the server through the mobile IP network. **A network monitoring**

system where a point to multipoint connection between a network device 10a to

10n and monitoring station 30a to 30n is established that passes through a

broadcast unit 20. A status message of the network device is transmitted to the

monitoring stations when a status change is detected in the network device via

the broadcast unit (See Abstract; Col. 4, lines 9-51 and Figure 1). An object of the

invention, is to increase the efficiency in network monitoring activities all in

which operations and maintenance of communication links require highly

sophisticated network monitoring technologies (See Col. 1, lines 14-22 and Col. 2,

line 27).

At the time of invention, it would have been obvious to a person of ordinary skill

in the art to implement a routing system to allow for a point to point communication

connection between mobile devices and host system to allow for data items to be

transmitted (Lewis-Abstract).

Regarding Claims 4 and 14, Lewis and Nakashima disclose wherein said

packet data transmissions include an SMS message, wherein establishing the link

includes transmitting at least one SMS message within the mobile communication

network and wherein the establishing step includes: transmitting a connection request

message as an SMS message to the repeater over the link; and connecting the link

based on a response from the SMS message. **Lewis-the mobile device 24 include a**

keyboard 232 and display 222 that is used for communicating by entering text

messages for transmitting data packets over the mobile communication network

(Col. 11, lines 30-35 and Col. 12, lines 11-16). The router 20 has a store and

forward structure that permits SMS messaging over the networks (Col. 16, lines

31-34).

Regarding Claims 5 and 15, Lewis and Nakashima disclose wherein the server

sends said packet data transmissions to said repeater by matching with an IWF

(InterWorking Function) within the mobile communication network, wherein establishing

the link includes transmitting a wireless modem ring signal upon matching with an IWF

(InterWorking Function) within the mobile communication network and a method for

controlling a repeater in a mobile communication system, comprising: establishing a

link between a server and the repeater based on an internetworking function performed

with a mobile communication network; and transmitting control information between the

server to the repeater over the link. **Lewis-links are established between the system**

28 and device 24 for transmitting data packet messages. Information is

transmitted via a router 20 through different networks 26 which inherently

include an IWF within the mobile communication network for allowing

communications between the different networks (see rejection for claim 1).

Regarding Claims 8, 9, 16, and 17, Lewis and Nakashima disclose wherein said

establishing the first link comprises: checking whether the data terminal unit is in a

normal state, said checking performed by the repeater; if the data terminal unit is in the

normal state, transmitting server connection information from the repeater to the data

terminal unit; conducting a procedure for approval of connection with the server

through the mobile communication network based on the server connection

information; and receiving a message indicating the server connection approval and

transmitting the received message to the repeater, wherein server connection

information comprises at least one of a phone number, an IP address, and server port

information of the server to be connected (**Lewis-when the router 20 is in a waiting**

state S800 or normal state it receives messages that could be data messages

from device 24, data item from host server or a registration message. The first

step in receiving a registration message consists of a procedure for approval of

connection (Col. 27, lines 4-26 and 42-45). When the message comes from the

device 24 to the service 28, the device provides the router with the host service

ID for locating and registering the correct host for the data message. The host

service ID is stored in the HIH within a database of the router and could be an IP

address; Col. 14, lines 15-40; Col. 15, lines 17-29 and Col. 18, lines 21-29),

wherein establishing the link comprises: checking an ID and connection state of the

repeater by loading a stored repeater management table; and if the link has not been

established with the repeater, establishing the link by transmitting an SMS message or

ring signal to the data terminal equipment connected to the repeater, wherein said

repeater management table comprises one or more of the following: a repeater ID field,

a data terminal phone number field, a connection state field, a connection ID field, a

field of IPs assigned to the data terminal equipment, and a download status field and

wherein the establishing step includes: transmitting a connection request message as

a ring signal through a modem to the repeater over the link; and connecting the link

based on a response from the ring signal **(Lewis-when the server 28 wishes to**

establish a link with the device 24 it sends a message including an identifier

which could be an IP address that corresponds to the device; Col. 17, line 58-

Col. 18, line 15).

Regarding Claims 10, 20, 21, 30 and 31, Lewis and Nakashima disclose further

comprising: checking a version of control software embedded in the repeater; and

updating the repeater with a new version of the control software transmitted from the

server to the data terminal unit through the mobile IP network, collecting information

required for repeater management and remote control, and reporting the information to

the server at an information report time, wherein the collected information indicates at

least one of whether the repeater is in operation or a version of control software in the

repeater, wherein the operation information includes the collected information, further

comprising: determining whether a version of control software in the repeater is

outdated; and updating the repeater with new control software and wherein the

updating step includes: transmitting the new control software from the server to the

repeater over the first link. **Lewis-the system inherently checks whether the device**

needs to be updated with a new version of software, if so, this information is

collected and sent to the host system. The host system sends the updated

software by means of sending data items through the mobile communication

network via router 20 (Col. 3, lines 50-60).

Regarding Claims 18, 19 and 28, Lewis and Nakashima disclose further

comprising: collecting status information of the repeater connected to said data

terminal equipment, and then reporting the status information to the server at an

information report time, wherein said operation information includes the status

information, wherein the status information includes information indicative of a cause of

an alarm occurring at the repeater and information relating to an internal location of the

repeater when the alarm has occurred and wherein the first link is established after a

disorder occurs in the repeater. **Nakashima-the monitored controller 10a sends**

status messages (operational information/status information) which can be

faults (disorders) to the monitoring stations 40a to 40n via the broadcast unit 20

this inherently can cause an alarm to occur at the monitored controller (Col. 4,

lines 41-51).

Regarding Claim 27, Lewis and Nakashima disclose wherein the first link is

established at a time of initial operation of the repeater. **Lewis-the mobile device has**

the host service identifier stored during initialization at the reseller, distributor or

manufacturer wherein the first link can be established (Col. 18, lines 29-34).

Regarding Claim 29, Lewis and Nakashima disclose wherein the first link is

established after a determination is made that the repeater has data to transmit to the

server **(see rejections for claims 1, 8 and 9)**.

4.   Claims 6, 11, 12, 22, 26, 32 and 33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lewis in view of Sen et al. (Sen), U.S. Patent No. 6,208,620.

Regarding Claims 6, 11, 12, 22, 26, 32 and 33, Lewis discloses the system and

method as described above.

Lewis and Nakashima fails to disclose wherein the data terminal unit is controlled

according to an IS-707 standard, further comprising: checking whether a disconnection

request has been sent from the server, said checking performed by the repeater; and if

no disconnection request has been sent, unless there is data transmission with the

server during a standby time, automatically disconnecting at least one of the first link

and second link and wherein said automatic disconnection comprises: after the

disconnection, checking whether data exists that has not yet been transmitted to the

server from the repeater, said checking being performed by the repeater; and if such data exists, sending a connection request again to the server.

In a similar field of endeavor, Sen discloses a TCP-aware agent sublayer (TAS) for robust TCP over wireless. Sen further discloses wherein the data terminal unit is controlled according to an IS-707 standard, further comprising: checking whether a disconnection request has been sent from the server, said checking performed by the repeater; and if no disconnection request has been sent, unless there is data transmission with the server during a standby time, automatically disconnecting at least one of the first link and second link and wherein said automatic disconnection comprises: after the disconnection, checking whether data exists that has not yet been transmitted to the server from the repeater, said checking being performed by the repeater; and if such data exists, sending a connection request again to the server. **The RLP is specified in IS-707 which is a protocol used for sending frames over a communications system. If the frames have not been correctly received after numerous timer resets, the trails are aborted inherently disconnecting a link. Because frames still exist and need to be transmitted, the system will then go through a process of caching & retransmitting of packets and monitoring & manipulating of delayed ACK (Col. 4, line 57-Col. 5, line 8 and Col. 6, lines 42-49).**

At the time of invention, it would have been obvious to a person of ordinary skill in the art to minimize the effects of faults when transmitting packet messages over an air link (Sen-Abstract).

Conclusion

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aramoto, U.S. Patent No. 6,980,558 discloses a method of distributing program to a plurality of nodes within a network by using gateway.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantell Portis whose telephone number is 571-272-0886. The examiner can normally be reached on Monday-Friday 7:00am-3:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLP

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER